

Amendments to the claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) Production method of at least one expanded core monomode optical fibre, ~~characterised in that wherein~~ it comprises the following successive steps:

- assembly of at least one graded index multimode fibre with at least one mode expansion monomode fibre, such that said graded index multimode fibre retains the diameter of the optical beam propagated therein;

- splitting of said graded index multimode fibre to form a protective component of predetermined length of said mode expansion monomode fibre.

2. (currently amended) Production method according to claim 1, ~~characterised in that wherein~~ said mode expansion monomode fibre comprises a monomode fibre, at least one segment of silica fibre, and at least a second segment of graded index multimode fibre.

3. (currently amended) Production method of at least one expanded core monomode optical fibre, ~~characterised in that wherein~~ it comprises the following successive steps:

- a first assembly step of a first graded index fibre with a first silica fibre;
- a first splitting step of said first silica fibre, so as to obtain a first segment of silica fibre of predetermined length;

- a second assembly step of a second graded index fibre at the free end of said first segment of silica fibre;

- a second splitting step of said second graded index fibre, so as to obtain a segment of graded index fibre of predetermined length, referred to as the second segment of graded index fibre;

- a third assembly step of a second silica fibre at the free end of said second segment of graded index fibre;

- a third splitting step of said second silica fibre, so as to obtain a second segment of silica fibre of predetermined length;

- a fourth assembly step of a monomode fibre at the free end of said second segment of silica fibre, so as to obtain an expanded core monomode optical fibre.

4. (currently amended) Production method according to claim 3,
~~characterised in that wherein~~ it also comprises a splitting step of said first graded index fibre, so as to obtain a first segment of graded index fibre.

5. (currently amended) Production method according to claim 4,
~~characterised in that wherein~~ said first and second segments of graded index fibre are of the same type.

6. (currently amended) Production method according to claim 4,
~~characterised in that wherein~~ said first and second segments of graded index fibre are of different types.

7. (currently amended) Production method according to ~~any of claims 1 to 6, characterised in that claim 1, wherein~~ it uses ribbons of n fibres, so as to produce a set of n expanded core monomode optical fibres collectively.

8. (currently amended) Production method according to ~~any of claims 1 to 7, characterised in that claim 1, wherein~~ it comprises a geometric modelling step of the free end of said first segment of graded index fibre.

9. (currently amended) Production method according to claim 8, ~~characterised in that wherein~~ said geometric modelling step consists of straight cleaving and/or straight polishing of said end.

10. (currently amended) Production method according to claim 8, ~~characterised in that wherein~~ said geometric modelling step consists of cleaving at an angle and/or polishing at an angle of said end.

11. (currently amended) Production method according to claim 8, ~~characterised in that wherein~~ said geometric modelling step is used to round said end, so as to form a lens.

12. (currently amended) Production method according to claim 11, ~~characterised in that wherein~~ said end is rounded using any of the techniques belonging to the group comprising:

- melting;
- drawing;
- material addition.

13. (currently amended) Production method according to claim 8, ~~characterised in that wherein~~ said geometric modelling step consists of etching said end using any of the techniques belonging to the group comprising:

- chemical etching;
- mechanical etching by polishing;

- laser etching.

14. (currently amended) Optical monomode fibre collimator, ~~characterised in that wherein~~ it comprises at least one segment of mode expansion fibre, and at least one segment of expansion holding fibre comprising at least a first segment of graded index multimode fibre.

15. (currently amended) Optical collimator according to claim 14, ~~characterised in that wherein~~ said segments of mode expansion and expansion holding fibre have the same diameter as said monomode fibre.

16. (currently amended) Optical collimator according to ~~any of claims 14 and 15, characterised in that claim 14, wherein~~ said segment of mode expansion fibre comprises at least one segment of silica fibre and at least a second segment of graded index multimode fibre.

17. (currently amended) Optical collimator according to claim 16, ~~characterised in that wherein~~ said segment of mode expansion fibre consists of two segments of silica fibre, between which said second segment of graded index multimode fibre is inserted.

18. (currently amended) Optical collimator according to ~~any of claims 14 to 17, characterised in that claim 14, wherein~~ one end of said first segment of graded index multimode fibre is cleaved and/or polished straight.

19. (currently amended) Optical collimator according to ~~any of claims 14 to 17, characterised in that claim 14, wherein~~ one end of said first segment of graded index multimode fibre is cleaved and/or polished at an angle.

20. (currently amended) Optical collimator according to ~~any of claims 14 to 17, characterised in that claim 14, wherein~~ one end of said first segment of graded index multimode fibre is rounded.

21. (currently amended) Optical collimator according to claim 20, ~~characterised in that wherein~~ said end is rounded using any of the techniques belonging to the group comprising:

- melting;
- drawing;
- material addition.

22. (currently amended) Optical collimator according to ~~any of claims 14 to 17, characterised in that claim 14, wherein~~ one end of said first segment of graded index multimode fibre is modelled using any of the techniques belonging to the group comprising:

- chemical etching;
- mechanical etching by polishing;
- laser etching.

23. (currently amended) Expanded mode diameter monomode optical fibre, ~~characterised in that wherein~~ it comprises at its end at least one mode expansion section and at least one expansion holding section comprising at least a first segment of graded index multimode fibre forming a protective component of predetermined length of said mode expansion section, said expansion holding section retaining the diameter of the optical beam propagated therein.

24. (currently amended) Monomode optical fibre according to claim 23,
~~characterised in that~~ wherein said mode expansion section comprises at least one segment
of silica fibre and at least a second segment of graded index multimode fibre.

25. (currently amended) Monomode optical fibre according to claim 24,
~~characterised in that~~ wherein said mode expansion section comprises two segments of
silica fibre between which said second segment of graded index multimode fibre is
inserted.

26. (currently amended) Monomode optical fibre according to ~~any of~~
~~claims 23 to 25, characterised in that~~ claim 23, wherein said monomode fibre, said mode
expansion section and said expansion holding section have the same diameter.

27. (currently amended) Monomode optical fibre according to ~~any of~~
~~claims 23 to 26, characterised in that~~ claim 23, wherein said monomode fibre is of the
polarisation holding type.